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ALARIS™
MEDICAL SYSTEMS

June 7, 2002

Commander
Attn: Clinical Engineering or Biomed Dept
1423 Sultan Drive
Fort Detrick, MD 21702-5001

Re: ***Distribution of Service Bulletins***

Dear Sir or Madam:

As a result of our continuing efforts to improve customer service, ALARIS Medical Systems will be mailing Service Bulletins up to four times a year. The Service Bulletins are designed to update the Technical Service Manual with the most current information for servicing and maintaining our equipment.

To better meet your needs, the cover letter has been revised and will now contain summary information regarding the Service Bulletins being provided with each mailing.

Enclosed you will find two important documents regarding your Signature Edition® infusion devices:

1. **Service Bulletin 480**. Air-in-Line Replacement on Mechanism.

   - Models affected: 7000/7100/7200/7130/7230

   - Provides Biomedical Technicians with information on the use and availability of an AIL mechanism replacement kit. This is reference information only and does not suggest a need for component changes.

2. **Service Bulletin 430C.** This supersedes Service Bulletin 430B to include clarification for cleaning the Air-In-Line Detector and Air-In-Line Arm

   - Models affected: 7000/7100/7200/7130/7230

   - Provides an updated cleaning procedure.
   - Request this information be passed to central supply or department responsible for cleaning instruments to help reduce instrument maintenance.

   - Provides a step to verify the proper orientation of the flow control actuator pin during the Preventive Maintenance Inspections and Test Calibration

If maintenance of your Signature Edition® infusion devices is performed by an outside facility, please forward a copy of the enclosed information to that facility.

You should only be receiving Service Bulletins for the specific model of instrument or instruments at your facility. If you have any questions or require additional information please contact **ALARIS Medical Systems Technical Support** at **800-854-7128 x6003.**

ALARIS Medical Systems recognizes the need for technical personnel to be updated with current information and hopes that your facility will benefit from this program.

Sincerely,

Brian Benson
Technical Support Manager
ALARIS Medical Systems, Inc.
Enclosures

ALARIS® MEDICAL SYSTEMS

10221 Wateridge Circle
San Diego, CA 92121, U.S.A.
P.O. Box 85335, San Diego, CA 92186-5335

Service Bulletin 480

P/N 147506-001

Service Bulletins are supplements to ALARIS Medical Systems® Technical Service/Maintenance Manuals.
For a complete list of all ALARIS Medical Systems® Service Bulletins, refer to: www.alarismed.com

Models Affected: Signature Edition® Volumetric Pump – 7000, 7100/7200 Series, 7130/7230 Series
Date: January 2002
Subject: Air-in-Line (AIL) Replacement on Mechanism

Purpose

The purpose of this bulletin is to provide Biomedical Technicians with information on the use and availability of an AIL kit. This is *reference information only* and does not suggest a need for component changes.

Explanation

Until now, no repairs to the mechanism have been allowed. An AIL kit is available so that the AIL arm (transmitter) and AIL button (receiver) can be replaced. The kit will include the AIL transmitter, AIL receiver, cable tie straps and installation instructions.

References

- 7100/7200 Series Technical Service Manual (*identified as P/N 142466; ordered as P/N 141776*)
- 7000 Configuration, Diagnostics, and Preventive Maintenance Module (SSM 1301)

Parts and Tools Required

- One each, as required – AIL Assembly Kit, P/N 147507-100

***NOTE**: After the kit has been ordered one time, the Air-in-Line transmitter (P/N 141734) and the Air-in-Line receiver (P/N 136836) can be ordered separately.*

Parts Ordering: Refer to Illustrated Parts Breakdown chapter of the Technical Service/Maintenance Manual
Technical Inquiries: 1-800-854-7128 Ext. 6003, 1-858-458-6003, FAX 1-858-458-7507

Recommended Action

CAUTION

Turn the instrument off and disconnect it from AC power before disassembly. Static charges will damage instrument circuitry. Observe proper grounding techniques (use grounding strap) to prevent possible harm to static-sensitive components.

If the AIL assembly is damaged or causing AIL alarms, use kit P/N 147507-100 to replace the AIL assembly. Follow the installation instructions provided in the kit to remove, install and test the AIL transmitter and/or receiver.

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Service Bulletin 430C

P/N 145093-000A

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For a complete list of all ALARIS Medical Systems® Service Bulletins, refer to: www.alarismed.com/

Model(s) Affected Signature Edition® Volumetric Pump; 7XXX
Date: January 2002
Subject: Cleaning Procedure

☞ *This supersedes Service Bulletin 430B to include clarification for cleaning the Air-In-Line Detector and Air-In-Line Arm.*

Purpose

The purpose of this bulletin is to provide Biomedical Technicians the following:

- an updated cleaning procedure, and
- request this information be passed to central supply or department responsible for cleaning instruments to help reduce instrument maintenance.
- a step to verify the proper orientation of the flow control actuator pin during the *Preventive Maintenance Inspections* and *Test and Calibration*.

Explanation

Alcohol, ammonia, acetone, benzene, phosphoric acid, xylene, and similar solvents can erode (wear away, pit) or otherwise damage the cam followers and other surfaces of the instrument. The cam followers must be kept clean using a solution of warm water and a mild non-abrasive detergent, and inspected for possible erosion.

The RS232 communication port cover must be closed and securely in place to reduce the potential for fluid to enter the instrument during the cleaning process.

Correct operation of the mechanism latch needs to be verified. This can be accomplished by verifying the proper orientation of the flow control actuator pin.

References

710X/720X Series Technical Service Manual (*identified as P/N 142466; ordered as P/N 141776*)
Service Bulletin 428A (*or more current*), Level of Testing Guidelines and Mechanism Springs

Parts and Tools Required

Not applicable.

Parts Ordering: Refer to Illustrated Parts Breakdown chapter of the Technical Service/Maintenance Manual
Technical Inquiries: 1-800-854-7128 Ext. 6003, 1-858-458-6003, FAX 1-858-458-7507

Recommended Action

Cleaning Procedure

When cleaning the instrument, use the following procedure in place of the corresponding procedure provided in the service manual. (*Reference Cleaning section of Preventive Maintenance chapter of service manual.*)

It is good practice to routinely clean the instrument, especially if spillage has occurred.

WARNING

Turn the instrument off and unplug the power cord from the AC power source before cleaning. Do not spray fluids directly onto the rear case of the instrument. Do not steam autoclave, EtO sterilize, immerse the instrument, or allow fluids to enter the instrument case. Failure to follow these instructions may result in an electrical hazard.

1. Do not use solutions containing phosphoric acid, aromatic solvents (naphtha, paint thinner, etc.), chlorinated solvents* (Trichloroethane, MEK, Toluene, etc.), ammonia, acetone, benzene, xylene, or alcohol.

CAUTION

The above solutions/solvents can damage the cam followers and other surfaces of the instrument.

**Excluding 10% bleach solution in water.*

2. Prior to any cleaning operation, ensure that the RS232 port cover is closed and securely in place. The cover may have screws present, which would be used to help secure it to the connector. (*See figure 1*)
3. Do not use hard or pointed objects to clean any part of the instrument.
4. Do not spray cleaning fluids on the instrument.
5. Acceptable cleaning solutions are (use per manufacturer's instructions):

warm water	Virex™II 256 [3]
Vesphene®IIse [1]	Manu-Klenz® [1]
CompuBlend™II [2]	10% bleach solution (*1 part bleach to 9 parts water*)

[1] Calgon Vestal Laboratories, Division of Calgon Corporation, Subsidiary of Merck & CO., Inc.
[2] 3M Healthcare, Subsidiary Building Service & Cleaning Products, Division of 3M.
[3] Trademark of Building Service & Cleaning Products, Division of 3M.

6. Keep the instrument upright and do not allow any part of the instrument to become saturated with or submersed in fluid during the cleaning operation.

Recommended Action (Continued)

Cleaning Procedure (Continued)

7. Use a soft cloth dampened with warm water and a mild non-abrasive cleaning solution to clean all exposed surfaces. For sanitizing or anti-bacterial treatment, use 10% bleach solution and water.

   NOTE: A soft-bristled brush may be used to clean hard to reach and narrow areas.

8. When cleaning the mechanism area: (*See figures 2A, 2B, 3A and 3B*)
   a. Move the latch to the open and closed positions, as needed, and clean in and around the latch.
   b. Verify that the flow control actuator pin is properly oriented when the latch is in the open and closed positions.

      NOTE: If the pin is not properly oriented, the instrument must be repaired before being returned to use.

   c. Clean the flow control actuator.
   d. Clean in and around the clamp arms and pumping mechanism (cam followers).
   e. Use light pressure when cleaning the pressure transducer.
   f. Clean the air-in-line arm and air-in-line detector. Wet cotton swab with warm water. Open latch, if not already open. With swab parallel to front of instrument, insert cotton part of swab from bottom of pump to air-in-line detector. Make sure swab is placed in the administration set location (*See figure 3A*). Close latch so air-in-line arm covers the cotton swab (*See figure 3B*). Slide swab up and down over entire surface of air-in-line arm and receiver at least three times. Remove wet swab and repeat process with dry cotton swab. Make sure no cotton particles remain on air-in-line arm or detector.
   g. Check the cam followers for cleanliness and erosion. Shine a flash light onto the cam followers. The followers should be clean and shiny. A dull appearance may be an indication of erosion. If the followers appear to be dirty or are dull, clean as follows:
      - Clean the surface of the cam followers using a cotton-tipped applicator dampened in a solution of warm soapy water and a mild non-abrasive detergent (*commercially available dish cleaning liquid is acceptable*). Rinse the followers with a soft cloth or cotton-tipped applicator dampened in water. Allow the followers to dry.
      - If, after cleaning the cam followers, they are still dull, replace the mechanism assembly or return the instrument to the factory for repair.

9. No additional lubrication should be necessary.

Mechanism Inspection and Visual Check

When performing *Mechanism* inspection during *Preventive Maintenance Inspections*, or *Mechanism Visual Check* during *Test and Calibration*, include the following step. (*Reference Preventive Maintenance Inspections section of Preventive Maintenance chapter of service manual, and current version of Service Bulletin 428.*)

Verify that the flow control actuator pin is properly oriented when the latch is in the open and closed positions. (*See figures 2A and 2B*)

NOTE: If the pin is not properly oriented, the instrument must be repaired before being returned to use.

Figure 1 – RS232 Port Cover Closure

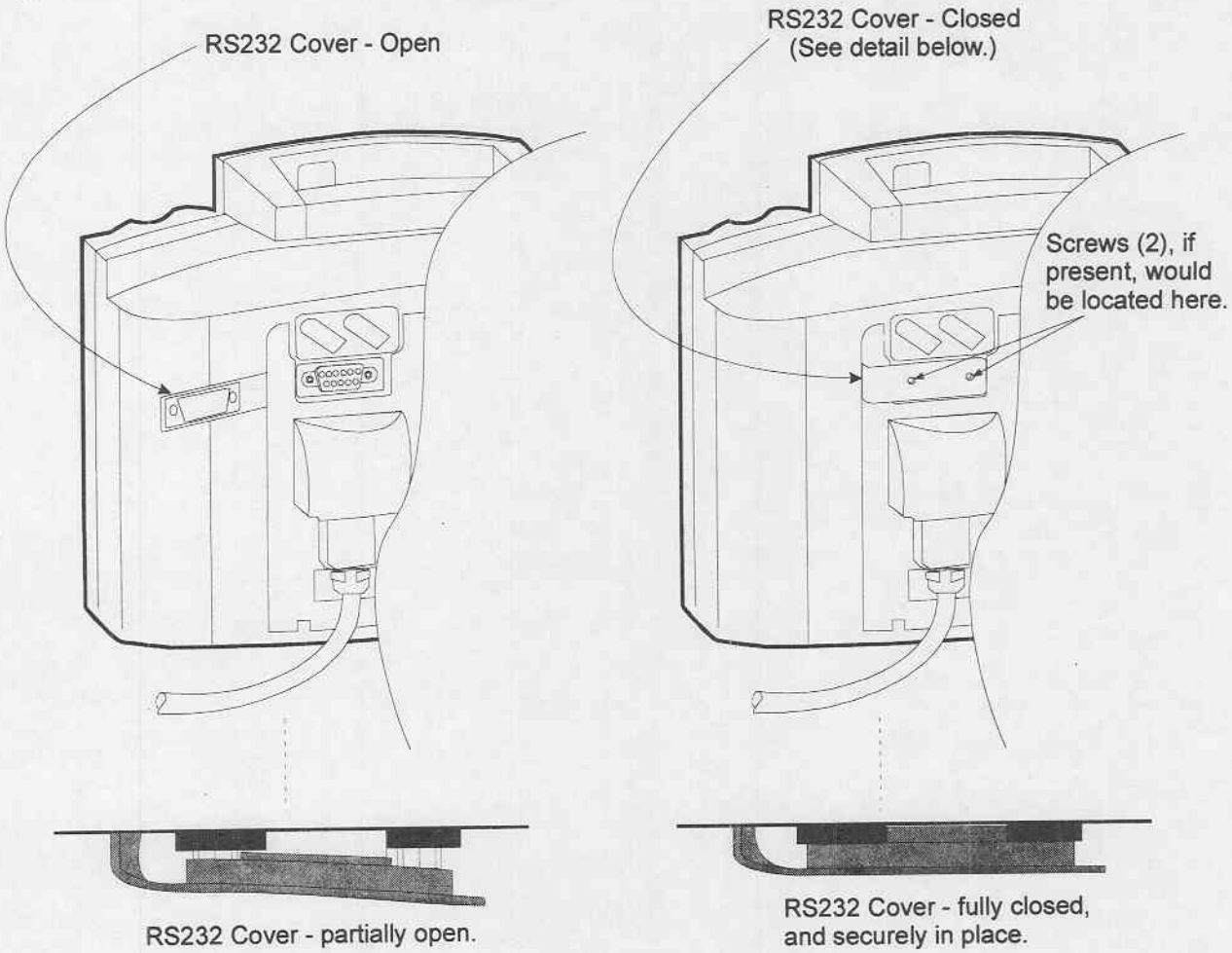


Figure 2A - Cleaning and Inspecting the Mechanism Area (latch in open position)

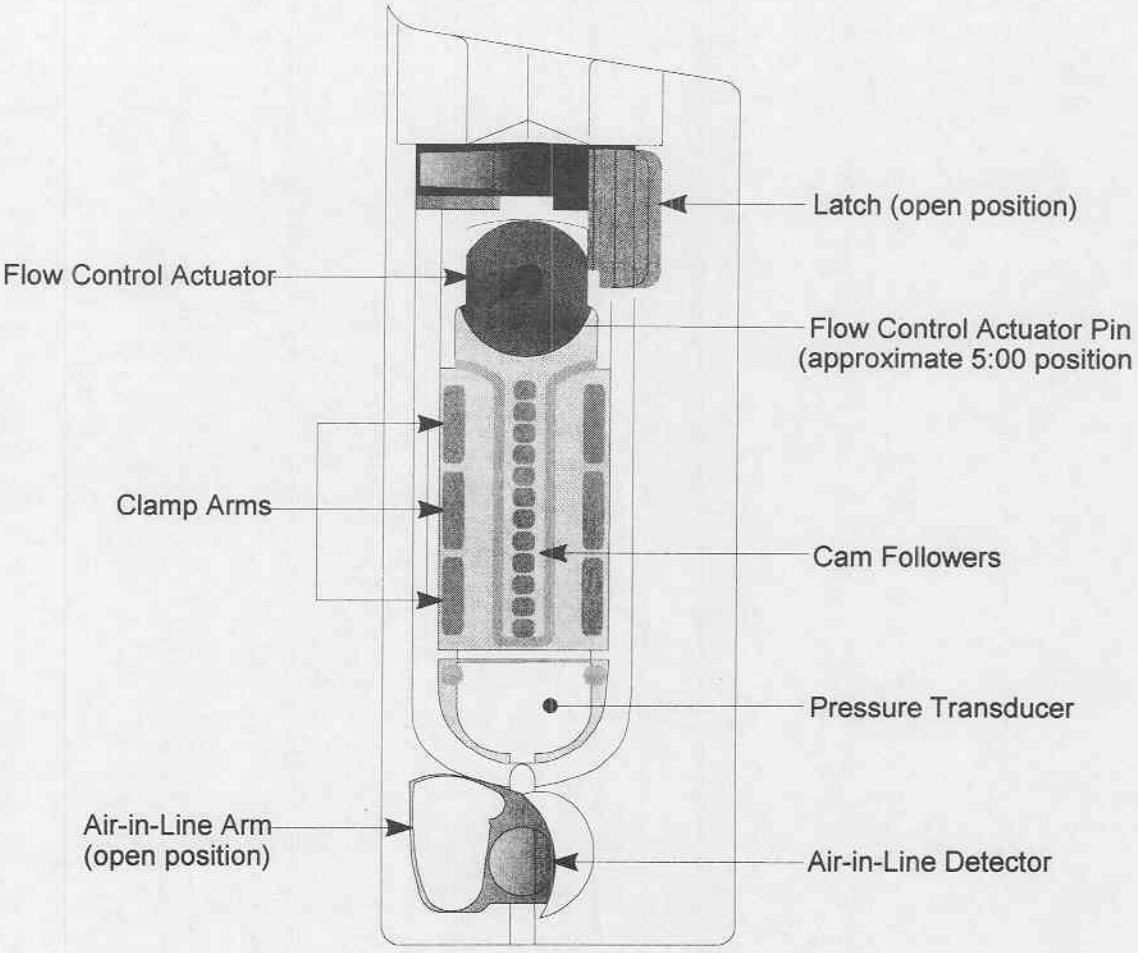


Figure 2B - Inspecting the Mechanism (latch in closed position)

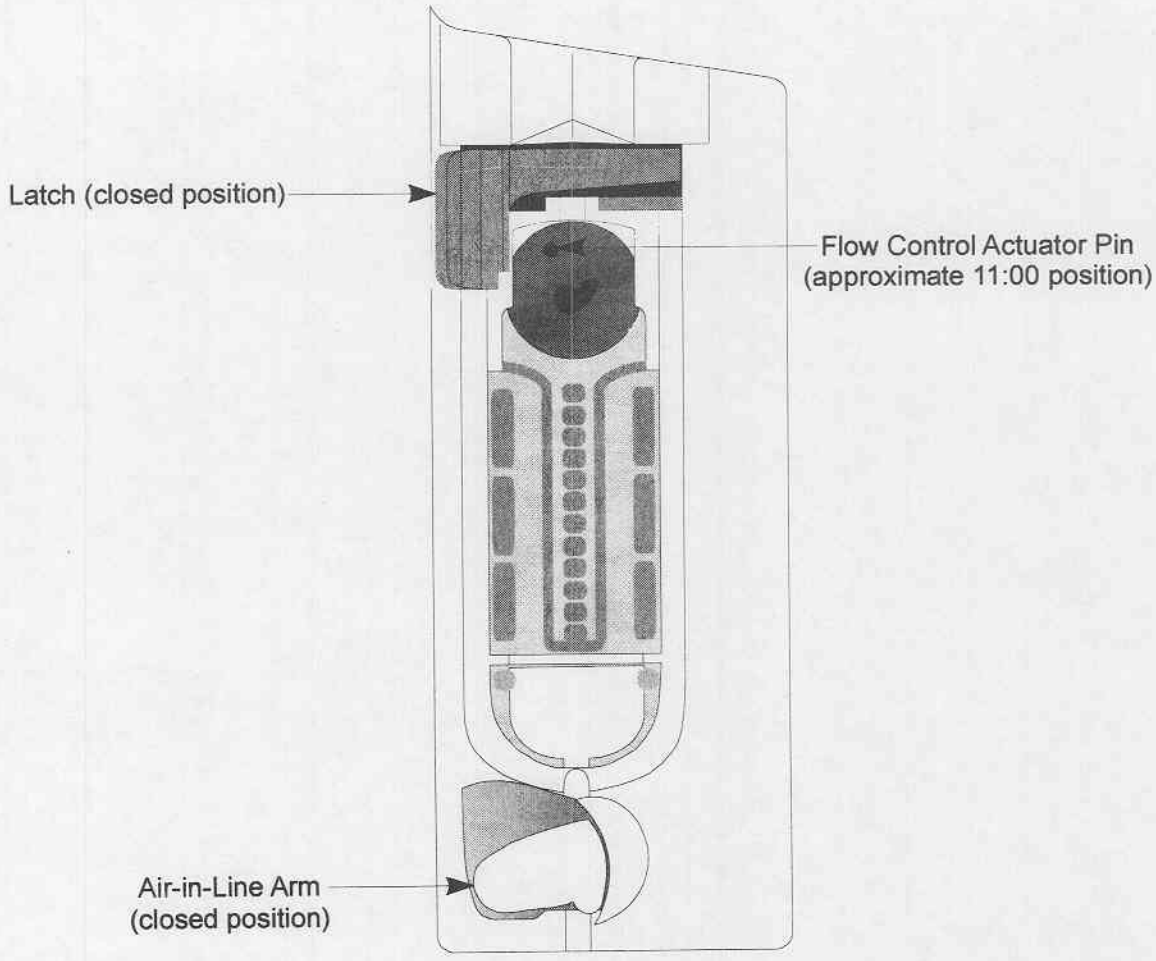


Figure 3A – Cotton Swab Parallel to Instrument and on Air-In-Line Detector with the Air-In-Line Arm in the Open Position.

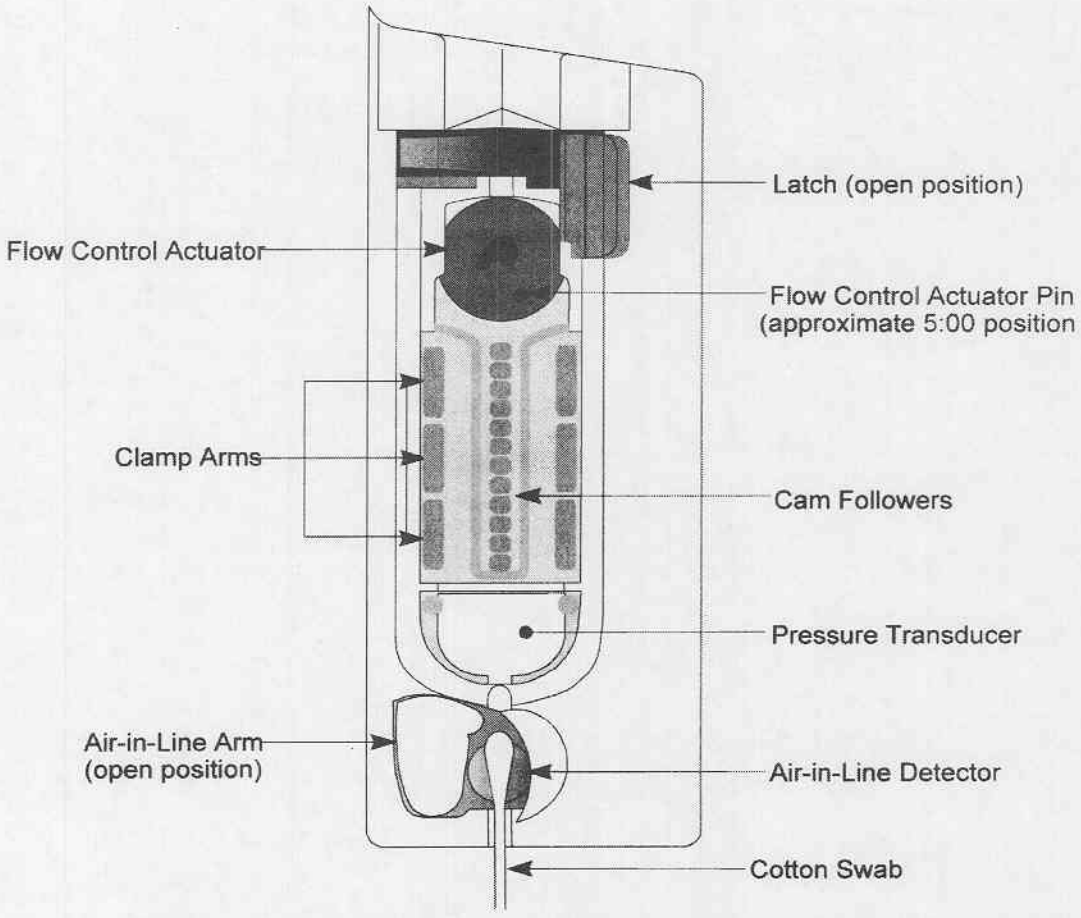
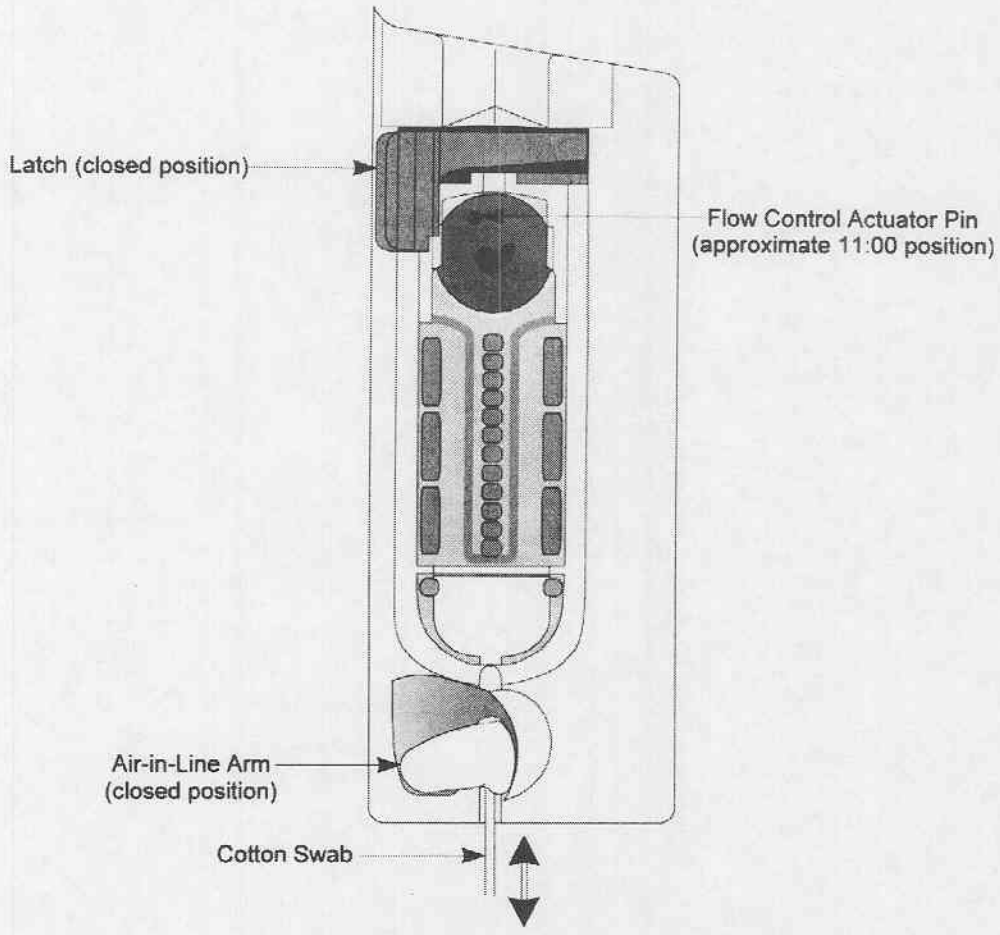


Figure 3B – Cotton Swab Parallel to Instrument and on Air-In-Line Detector with the Air-In-Line Arm in the Closed Position.



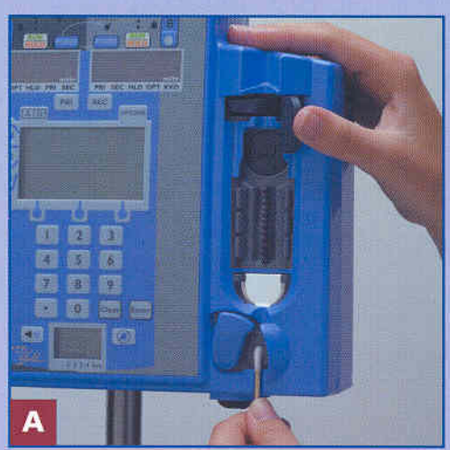
Signature EDITION® INFUSION SYSTEM

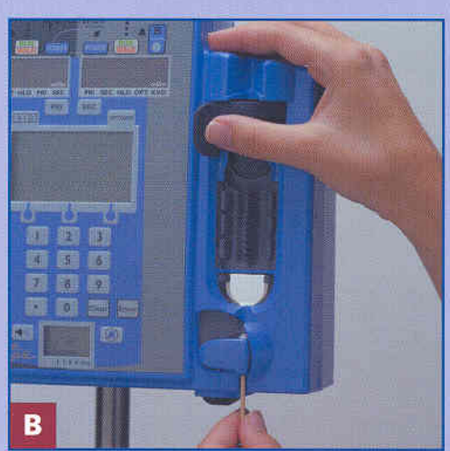
Cleaning the Air-in-Line Detector

It may be necessary from time to time to clean the Air-in-Line Detector so that optimal contact is maintained between the detection system and the I.V. tubing. This allows the ultrasound emitter in the Air-in-Line arm to send a clear signal through the I.V. tubing to the receiver.

Cleaning can be accomplished using a cotton-tipped applicator moistened with water. Do not use chemical cleaners or solvents.

- Open the instrument latch.
- Moisten a cotton-tipped applicator with warm water.
- Holding the wooden shaft of the applicator vertically, with the tip upward, place the cotton tip over the air-in-line detector. *(Figure A)*
- Close the latch so that the tip of the applicator is enclosed between the air-in-line detector and the air-in-line arm. *(Figure B)*
- Swab up and down at least three times.
- Open the latch and remove the applicator.





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